

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A solid-state image-pickup device having:
a sensor array comprising a plurality of sensors; and
a plurality of transfer registers for transferring signal charges from said sensors of said sensor array,

at least one horizontal-horizontal transfer register is formed between said transfer registers for storing temporarily and transferring said signal charges;

wherein an accumulation gate is provided between said sensor array and said transfer registers for reading out signal charges from said sensors at ~~the~~ a same time, accumulating said signal charges and allocating said signal charges to said transfer registers.

2. (Original) A solid-state image-pickup device according to claim 1, further comprising a read-out gate provided between said array of sensors and said accumulation gate.

3. (Previously Presented) A solid-state image-pickup device according to claim 1, wherein said accumulation gate creates a difference in electric potential oriented in a direction of transfer.

4. (Previously Presented) A solid-state image-pickup device according to claim 1 wherein signal charges of said sensors are stored in said accumulation gate to be allocated in units of electrical charge each originated by one of said sensors.

5. (Previously Presented) A solid-state image-pickup device according to claim 1 wherein signal charges of said sensors are allocated to respective transfer registers for each

odd sensor and each even sensor of said sensor array.

6. (Currently Amended) A method of driving a solid-state image-pickup device having:
a sensor array comprising a plurality of sensors;
a plurality of transfer registers for transferring signal charges from said sensors of said sensor array;

at least one horizontal-horizontal transfer register formed between said transfer registers for storing temporarily and transferring said signal charges;

an accumulation gate provided between said sensor array and said transfer registers, said method comprising the steps of:

reading out signal charges from all of said sensors in a row closest to said accumulation gate at a same time;

allocating said signal charges of said sensors from said accumulation gate to said transfer registers; and

driving said transfer registers to output said signal charges.

7. (Original) A method of driving a solid-state image-pickup device according to claim 6 whereby said transfer registers are driven at the same time.

8. (Previously Presented) A method of driving a solid-state image-pickup device according to claim 6 whereby signal charges of said sensors are allocated to respective transfer registers for each odd sensor and each even sensor of said sensor array.

9. (Previously Presented) The solid-state image-pickup device according to claim 1, wherein said horizontal-horizontal transfer register has a same number of columns as said transfer registers.

10. (Previously Presented) The method of driving a solid-state image-pickup device according to claim 6, wherein said horizontal-horizontal transfer register has a same number

of columns as said transfer registers.

11. (Previously Presented) The solid-state image-pickup device according to claim 2, said accumulation gate and said read-out gate share a common gate electrode.

12. (Previously Presented) The method of driving a solid-state image-pickup device according to claim 6, wherein said step of reading out and said step of allocating are carried out through a common gate electrode.

Please add the following new claims:

13. (New) A solid-state image-pickup device having:
a sensor array comprising a plurality of sensors; and
a plurality of transfer registers for transferring signal charges from said sensors of said sensor array,

at least one horizontal-horizontal transfer register is formed between said transfer registers for storing temporarily and transferring said signal charges;

wherein an accumulation gate is provided between said sensor array and said transfer registers for reading out signal charges from said sensors at a same time, accumulating said signal charges and allocating said signal charges to said transfer registers, the accumulation gate being directly connected to the sensor array via a readout gate without any vertical transfer registers between the sensor array and the accumulation gate.

14. (New) A method of driving a solid-state image-pickup device having:
a sensor array comprising a plurality of sensors;
a plurality of transfer registers for transferring signal charges from said sensors of said sensor array;

at least one horizontal-horizontal transfer register formed between said transfer registers for storing temporarily and transferring said signal charges;

an accumulation gate provided between said sensor array and said transfer registers, the accumulation gate being directly connected to the sensor array via a readout gate without any vertical transfer registers between the sensor array and the accumulation gate;

said method comprising the steps of:

reading out signal charges from all of said sensors in a row closest to said accumulation gate at a same time;

allocating said signal charges of said sensors from said accumulation gate to said transfer registers; and

driving said transfer registers to output said signal charges.